STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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North Carolina Board of Transportation
Environmental Planning and Policy Committee
Meeting Minutes for January 10, 2007

A meeting of the Environmental Planning and Policy Committee (EPPC) was held January 10, 2007 at 8:30 AM in the Board Room (Room 150) of the Transportation Building. Board Member Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Conrad Burrell
Bob Collier
Andrew Perkins
Douglas Galyon
Alan Thornburg
Cam McRae
Lanny Wilson
Tom Betts
Arnold Lakey

Other attendees included:

Joe Sewash
Andy McDaniel
Julie Hunkins
Jay Swain
Joel Setzer
Neil Lassiter
Lisa Glover
Steve Dewitt
Berry Jenkins
Ricky Green
Allen Pope
Phil Harris
Wally Bowman
Johanna Reese
Carl Goode
David Harris
Derek Smith
Ehren Meister
Marshall Dobson
Dan Thomas
Marcus Wilner
Bob Andrew
Robin Little
Ken Pace
Don Lee
Richard Holder
Matt Lu
Larry Goode
Derry Schmidt
Mike Holder
Mike Pettyjohn
Tom Johnson
Daniel Keel
Tammye Davis
Bill Rosser
Jon Nance
John Sullivan
C.A. Gardner

Ms Szlozberg called the meeting to order at 8:30 AM and circulated the attendance sheet.

Ms Szlozberg began by wishing everyone a Happy New Year. She that today's three agenda items were on-going work that have continual benefits for the Department and the State. She then provided some background on the agenda items. Item one, State Minimum Criteria, helps show the public how the NC Department of Transportation (NCDOT) is a transparent organization with a clear process. The reporting on the State Minimum Criteria has been received well by the public. The swine industry in

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North Carolina contributes greatly to our economy and also presents environmental challenges. The second agenda item, an update on organic (hog) waste research, looks at the potential market for hog waste and how NCDOT be a part of the solution. The last agenda item, Stream Mapping, empowers agencies with information to make better decisions when doing transportation projects.

Ms Szlozberg accepted a motion to approve the meeting minutes from the November 2006 committee meeting. The minutes were approved.

Ms. Szlozberg then turned the meeting over to Daniel Keel, Operations Program Manager, to give an update on the State Minimum Criteria.

Mr. Keel provided an update for the forth quarter of 2006 and the cumulative totals for 2006. The tracked categories included:

Category 8 – Highway Modification
Category 12 – Maintenance of Highway System
Category 15 – Construction of new 2-lane highways involving less than 25 acres

For the 4th quarter there were 78 projects for a total of 78 miles with the newly disturbed area at around 135 miles. The number of projects has declined since 2004. There were 380 projects done in 2006 with majority being Category 12, which were maintenance and repair activities. He noted that Category 15 is less than 2 % of the total projects.

Ms. Szlozberg asked where we were with getting this on the web. Mr. Keel responded that the website is not operating how we want it to and the web-based program hasn't been distributed to the field. IT is working on it and the site will be presented once it's in order.

Ms. Szlozberg was curious if the information was distributed to resource agencies. Mr. Keel stated that the information is available and shared with agencies.

Ms. Szlozberg then welcomed Davis Harris, State Roadside Erosion Control and Vegetation Management Engineer, to discuss update on organic waste research.

Mr. Harris stated that in 2002 there was an agreement with Smithfield Foods and Premium Standard Farms with the Attorney General's office. A grant was established for 17.1 million dollars to look at alternative technologies to process growing problems with hog waste. So they were reviewing the different systems. In 2003, Orbit came to DOT wanting to form a partnership to look at using the product that comes from their process. A research project was developed with Dr. Peacock at NC State University to look at the processed hog waste product, evaluate the odor problem, the effectiveness of the product as a fertilizer and then compare it with standard fertilizers. In 2005, Orbit withdrew due to lack of funding. Dr. Peacock continued the research and Super Soils came to the table as partner. Super Soils came with a better process. Super Soils' product is further along, it met more of the standards that had been set for the product. They got a grant to set up equipment on some farms and develop the product. NCDOT put $20,000 worth of funding into the project. NCDOT then transported the product to different projects within the area. One of the problems with product is the

transportation cost. Dr. Peacock will examine how feasible it is to use the product, especially in light of the transportation costs, and the cost of it.

Regarding the odor issues associated with the product, the odor is weakened as the product goes through the entire process. While Orbit did not take the product through the entire process in the research they did, which would have resulted in decreased odor, NCDOT doesn't feel that odor will ultimately be an issue. The concern lies more on transporting the product to the sites.

Ms Szlozberg asked Mr. Harris to elaborate on the anaerobic digestion process being about 99.9% pathogen free and the possible environmental impacts. Mr. Harris replied that Dr. Peacock identified that animal waste is often high in salt content and that can have a negative impact on plants. That was another item that was researched.

Ms. Szlozberg asked how the products would be used on transportation projects? Mr. Harris responded that the product could be used on roadside plantings, especially in the eastern North Carolina, wildflower beds and on construction projects where there are problems with soil fertility. It's probably more feasible to use in Raleigh, Wilmington and eastern areas of the State. Most hog farms are located in the easternmost areas.

Ms. Szlozberg asked where mulch and other organic material to amend soil with come from? Mr. Harris answered that NCDOT gets its mulch from regional operations. Once the industry accepts a technology and its associated process and the product becomes more available, the market will increase and transporting will become more feasible.

Ms. Szlozberg introduced final speaker, Andy McDaniel, Highway Stormwater Program Engineer from the Hydraulics Unit to discuss Stream Mapping Program.

Mr. McDaniel introduced his partner on the project, Joe Sewash, Stream Mapping Project Manager-North Carolina Center for Geographic Information and Analysis – DENR. Mr. McDaniel reminded everyone when he came before Committee in August 2005 with plan and hopes of improving Stream Mapping across North Carolina. He reported that excellent progress had been made in 2006 due to cooperation of agencies including NCDOT and the technical leadership provided by CGIA.

Mr. McDaniel began with an overview of the presentation. He would present why stream mapping is important to NCDOT and its benefits to the planning and environmental decision-making processes. Joe Sewash would provide more detail on project background and the progress to date.

Mr. McDaniel stressed that accurate stream mapping is critical to numerous NCDOT business processes. NCDOT uses stream mapping daily for:

- Long Range Planning
- Project Development
- NEPA and Merger 01 Process
- Corridor Selection – Least Environmentally Damaging Practical Alternative (LEDPA)

- Permitting
- Stream impact estimation and mitigation
- Roadway and hydraulic design
- National Pollutant Discharge Elimination System / stormwater management permitting

NCDOT has used USGS topographic maps as main source of stream mapping data for decades because: they are readily available (NCDOT's GIS unit distributes electronic copies); there is statewide coverage; they are widely accepted by resource agencies as a useful source from stream and other types of information; blue line streams available in GIS format; and they remain useful today, especially in rural areas.

The drawbacks to using USGS topographic maps are that USGS is no longer updating these maps and USGS topographic maps were never intended to be a complete accounting of streams.

Mr. McDaniel provided an example of inconsistent mapping. He then turned the presentation over to Joe Sewash to discuss project benefits and progress to date sections.

Mr. Sewash described the benefits directly involving DOT processes as follows:

- NCDOT staff and consultants will have desktop access to the most up to date stream mapping and attribute information
- Enhanced support for transportation planning and permitting processes
- Improve projections of stream and riparian buffer impact mitigation needs
- Increase efficiency of numerous NCDOT business areas
- Advance the goals set forth in the NCDOT's Environmental Stewardship Policy

Mr. Sewash gave some background information. The stream mapping project began from the Studies Act pass by General Assembly in 2004. The Act requested the State Geographic Information Coordinating Council (GICC) and DENR to develop a plan to address natural resource data and the lack of regular updates for this information. Four meetings were held in 2004 and a plan was developed that addressed the opportunity to develop data for entire state. The Stream Mapping Implementation Plan was submitted to the North Carolina Legislature in January 2005 through the Environmental Review Commission. The plan called for a five-year implementation and was endorsed by GICC, Clean Water Management Trust Fund and the Board of Transportation. In the 2005 session, the General Assembly was dealing with the Hurricane Recovery Act. Hurricanes Ivan and Francis impacted the state in late 2004, and a 19-county area received Federal declarations of emergency. The Hurricane Recovery Act covers the 19-county area in the western part of the state, and resources were directed toward the development of the first phase of the stream-mapping program.

Mr. Sewash next reported on the progress of the stream mapping initiative. The first seven months of the project concentrated on collecting source data. This included LIDAR, NHD, and othro imagery data. LIDAR is digital elevations data generated through the State's floodplain mapping program. NHD data is the digital depiction of the blue lines on topographic maps. The ortho imagery is the digital depiction of rectified photography that is used as a backdrop and reference layer in the development of various GIS products. As of today, eight sub-basins have been identified and will be completed in May

2007. The Horizontal Accuracy Study was a key foundational activity. Its purpose was to perform a pilot study on a small area to determine what the horizontal accuracy of the streamlines and water bodies would be in various conditions. Five areas with were chosen in Caldwell County, NC. Varying degrees of terrain density, differing imagery resolutions and varying drainage areas, as well as varying land characteristics, were used. Approximately 100 miles of stream was chosen for the study. There was a very comprehensive design process of the database. The Stream Mapping Advisory Committee, agencies, and local groups are participated in the development of the database design.

Mr. Sewash gave a visual overview of how NCDOT can update quality, consistency and accuracy of hydrographic across all of North Carolina. The design process has been inclusive, responsive, and documented. A comprehensive workflow design process was also established to replicate the production process; NCDOT will be able to use this at it looks at the remaining counties. With the focus on Result Based Budgeting, the plan will document business and technical requirements for supporting future data maintenance. The geometry and business data/attribute maintenance will be addressed independently. NCDOT is also documenting use cases in support of continuing maintenance. This will provide a comprehensive record on the benefits of project to users.

Mr. Sewash stated that the project is on-time and within budget and is anticipated to wrap up in May 2007. They are working on a website to serve as a distribution point for technical documentation and the data itself. The data will be integrated with the North Carolina OneMap infrastructure to share data across agencies and with local government. There will also be a specific internet-based application to facilitate use by stakeholders.

Ms. Szlozberg asked why the USGS stop producing maps. Mr. Sewash responded that it was an issue of cost effectiveness and cutting back for USGS. USGS's vision is to draw on State's resources and aggregate those to state, regionally and eventually national data sets. USGS is moving from paper-based products to digital-based products and wants to build partnerships to take advantage of investments that are occurring on the local level.

Ms. Szlozberg asked how the "before" image versus accurate image benefits us. Mr. Sewash explained that the new stream mapping will be more accurate during the early planning stages thus reducing the amount of field work early in the planning process.

Mr. McDaniel added that another benefit related to the estimating of mitigation estimates. We currently rely on the 1:2400 scale to estimate cost for the Ecosystem Enhancement Program. NCDOT also uses a process that overestimates mitigation needs as a result of inaccurate or incomplete data. With the new information at hand, money won't be unnecessarily spent and our impact estimation processes will be better refined. Other benefits include reduced field visits when doing environmental resource technical reports because we have adequate data.

Ms. Szlosberg stated that the Department is doing the right thing environmentally and economically.

Ms. Szlozberg concluded by asking the Board to think of items to tackle in 2007. Seeing no further questions, Ms. Szlozberg accepted a motion to adjourn the meeting.